

FIG. 4A

FIG. 4B

FIG. 4

ELEMENT S S S S S S S S S S S S S S S S S S S	,	IMAGE DATA LINE 7 IMAGE DATA LINE 2 IMAGE DATA LINE 3	IMAGE DATA LINE 4	IMAGE DATA LINE 49 IMAGE DATA LINE 50	CEPA VALUE REGISTER
ELEMENT Q	ELEMENT S	S) (S) (S)	<b>(S)</b> · · · · ·	<i>€ ©</i> · · ·	
ELEMENT P (a) (a) (a) (b) (b) (c) (c)         ELEMENT O (a) (a) (b) (c) (c)         ELEMENT N (a) (a) (c) (c) (c) (c)         ELEMENT M (a) (c) (c) (c) (c) (c)         ELEMENT L (a) (c) (c) (c) (c) (c)         ELEMENT K (a) (c) (c) (c) (c) (c)         ELEMENT J (c) (c) (c) (c) (c) (c)         ELEMENT H (a) (c) (c) (c) (c) (c)         ELEMENT F (a) (c) (c) (c) (c) (c) (c)         ELEMENT D (a) (c) (c) (c) (c) (c) (c)         ELEMENT D (a) (c) (c) (c) (c) (c) (c)         ELEMENT D (a) (c) (c) (c) (c) (c) (c) (c)         ELEMENT D (a) (c) (c) (c) (c) (c) (c) (c) (c) (c)         ELEMENT D (a) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	ELEMENT R		<b>(4)</b>	( <del>4</del> )( <del>0</del> ) · · ·	··•
ELEMENT O 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	ELEMENT Q	388	$\textcircled{2}\cdots$	(4) (5) 	$\cdots$
ELEMENT N       Image: Control of the con	ELEMENT P		$\bigcirc$ $\cdots$	<b>4000</b> ···	
ELEMENT M       D	ELEMENT O	9(8)(6)	<b>(2)</b> · · · · ·	<i>€ 6 6</i>	$\cdots$
ELEMENT L       I	ELEMENT N		$\bigcirc$	<i>€ 6 6</i>	·· (D)
ELEMENT K       X	ELEMENT M	<b>333</b>	$\bigcirc$	<b>€ ©</b> · · ·	
ELEMENT J S S S S S S S S S S S S S S S S S S	ELEMENT L		$\bigcirc$	<b>€ ©</b> · · ·	$\Theta$
ELEMENT I       S	ELEMENT K	<u>D</u> QQ	<b>3</b> ·····	<b>€ ©</b> · · ·	
ELEMENT H       II	ELEMENT J	<b>388</b>	<b>4</b> · · · · ·	<b>€ ©</b> · · ·	
ELEMENT G       G	ELEMENT I		<b>⋬</b> · · · · ·	<i>€ 6 6</i>	
ELEMENT F       I	ELEMENT H	DDD	$\textcircled{3}\cdots$	<i>€ 6 6</i>	$\odot$
ELEMENT E       IIII IIII IIIIIIIIIIIIIIIIIIIIIIIIIII	ELEMENT G	988	<b>3</b> · · · · ·	<i>€ 6 6</i>	
ELEMENT D         0	ELEMENT F		T	<i>€ 6 6</i>	
ELEMENT C C C C C C C C C C C C C C C C C C C	ELEMENT E			<b>€ ©</b> ···	·· (D)
ELEMENT B 6 6 6 6	ELEMENT D	900	$ \bigcirc \!\!\!\! \bigcirc \!\!\!\! \bigcirc \!\!\!\! \cdots \cdots $	<i>⊕ ⊕ ⊕</i>	$\cdots \bigcirc$
	ELEMENT C	D(B)(B)	<b>(2)</b> · · · · ·	<b>400</b> ···	
ELEMENT A QQQQQQQ	ELEMENT B		<b>B</b> · · · ·	<b>4 6</b> ···	(D)
	ELEMENT A	<b>300</b>	<b>3</b> ·····	<b>BB</b>	

EG. 50 IT LINE IMAGE

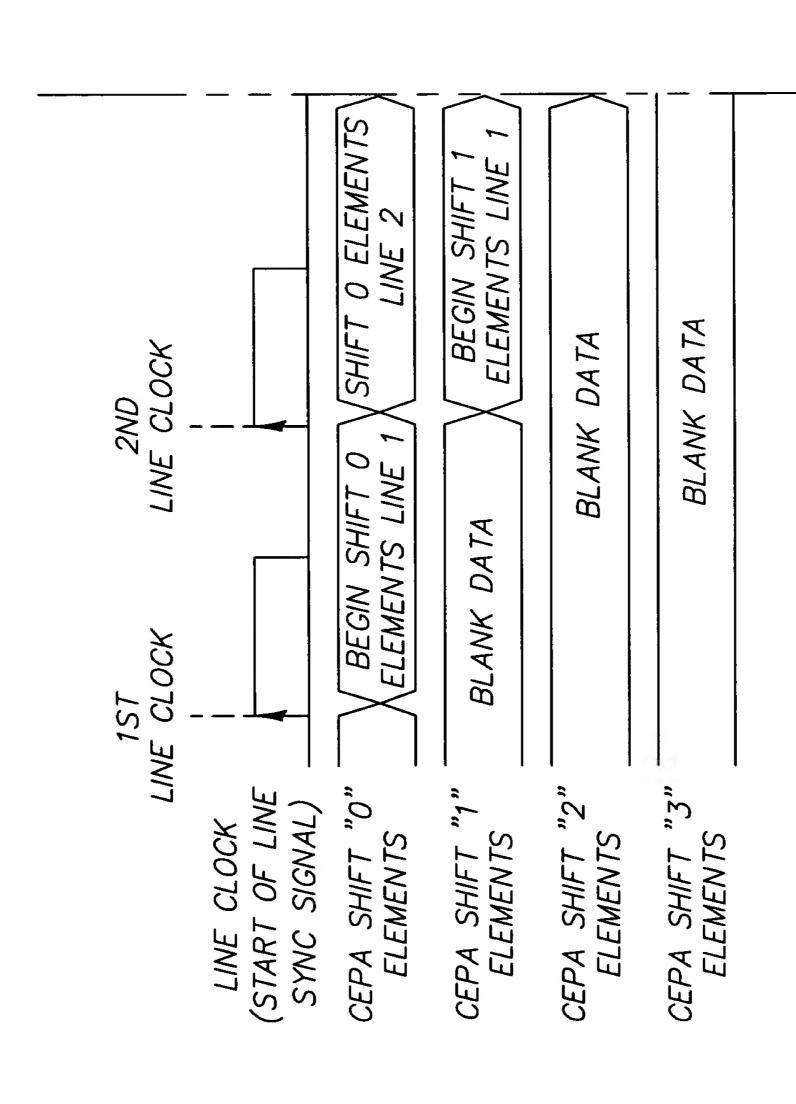
EG. 2-BIT CEPA (m=2) #STEPS=2<sup>m</sup> #STEPS=4

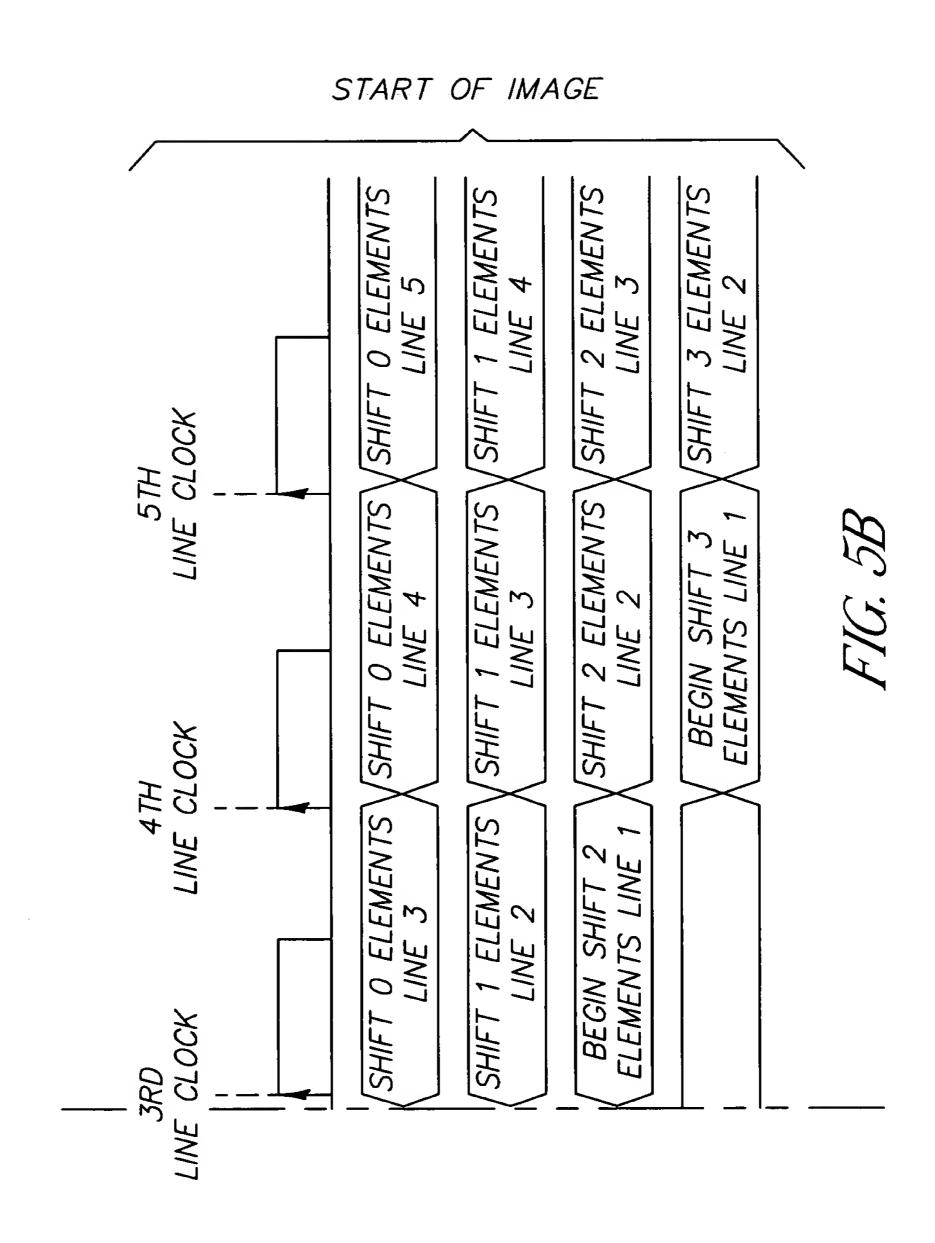
7	0/ 1	N 4	2	9			49	50	51	52	53	
TINE		LINE	TINE	<b>LINE</b>			<b>LINE</b>	TINE	TINE	<b>TINE</b>	TINE	
DATA	DA 7A	DA IA DA TA		DATA			DATA	DATA	DATA	DATA	DA TA	
CEPA 1		CEPA L	CEPA	CEPA [			$\{CEPA$	CEPA [	CEPA 1	CEPA [	SCEPA [	
C		5 5	CS	C			S S	C F	$\sim$	$\sim$	CC	_
···· (S)	(3)	3 (3)	SE	Se (	• • •	• • •	45	(50	0	0	$\bigcirc$	_
	(C)	<b>AB</b>	(A)	(E)	• • •	• • •	(48)	49	(50)	0	0	_
$\cdots$		3)(3)	(3)	(9)	• •	• • •	(A)	48	(4)	(20)	0	_
$\cdots (o)$		D)(D)	3	64	• •	• • •	(A)	48	(49)	50	0	_
$  \cdots \rangle$		o)(g)	3	3	• •	• • •	46	(4)	48	(49)	50	•
		(E)(e)		$\bigcirc$	• •	• • •	(46)	4	(48)	<del>(49)</del>	(20)	
····· (\$	30	\$\( \int \)	(M3)	(M)	• •	• • •	<i>(49)</i>	(50)	$\bigcirc$	0	0	4E
		30	(4)	(3)	• • •	• •	48	67	50	0	0	- جرح
	(0)(	<b>2</b>	(3)	(E)	• • •		(4)	48	67	50	(0)	
	(5)(	3)(3)	(2)	(2)			48	67	50	0	0	
(=	(2)(	5)(4)	(5)	9)	• • •		(6)	50	(0)	(0)	(0)	_
		30	(F)	(F)	• • •		48	64	50	0	0	_
0	(OX	3/3	(2)	35			4	18	(4) (9)	20	(O)	<del></del>
	(0)(i		で で	4	• •		NO.	(d)	6	3	0	
6			No.	M	• •		9	方	60	6)	Š	_
		<b>1</b> 8	资	为 例	• •		X	8	め	No.	0	_
			淡 然	冰	• • •		16/4	X	18/4	49/6	20	<u></u>
			*	X	• •		9	X	8	96	S S	_
		XX	XX	X			8	X	8	8	8	
			V			-	4	タ	タ	4		_

EG. CEPA OUTPUT IT LENGTH +(2<sup>m</sup> -1) 50 + 3=53 53 IT LINE IMAGE

FIG. 5B	FIG. 5D
FIG. 5A	F/G. 5C

FIG. 5





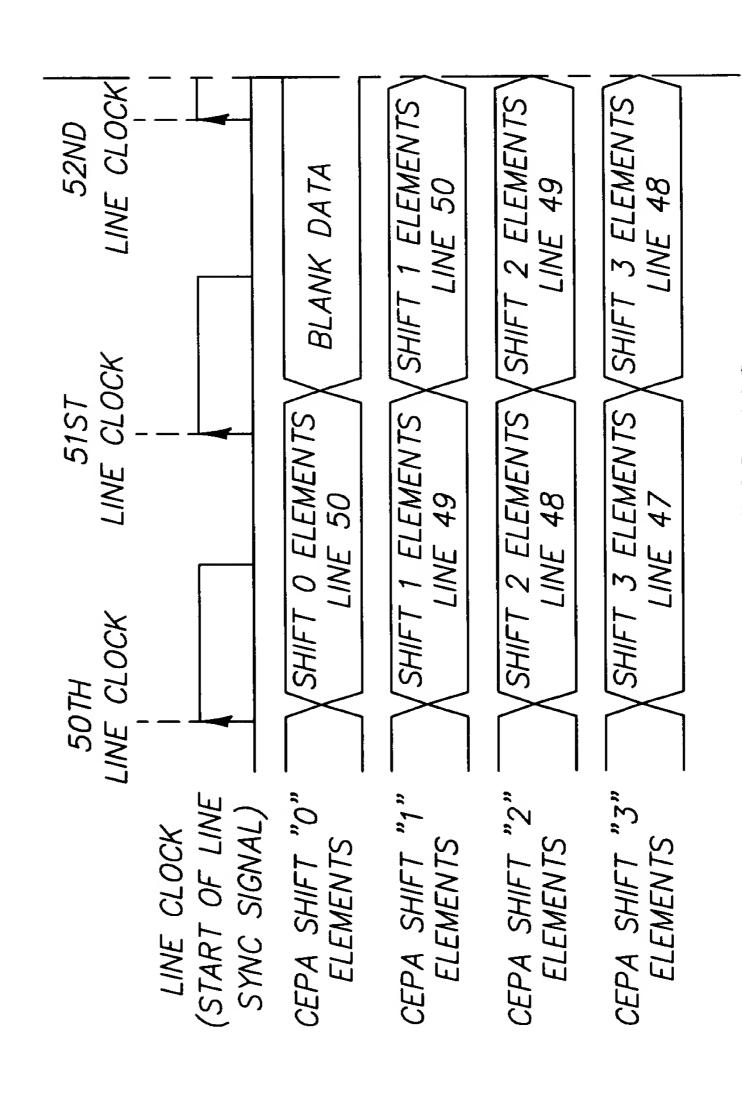
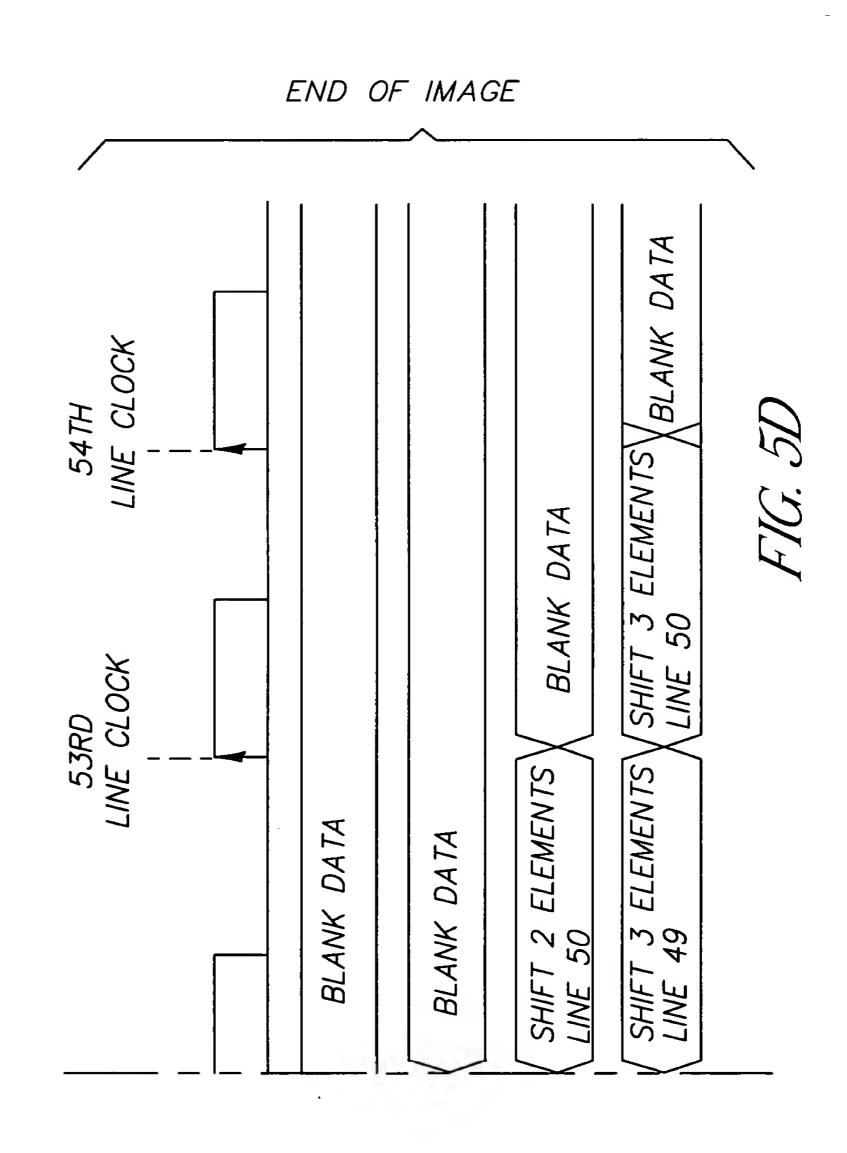
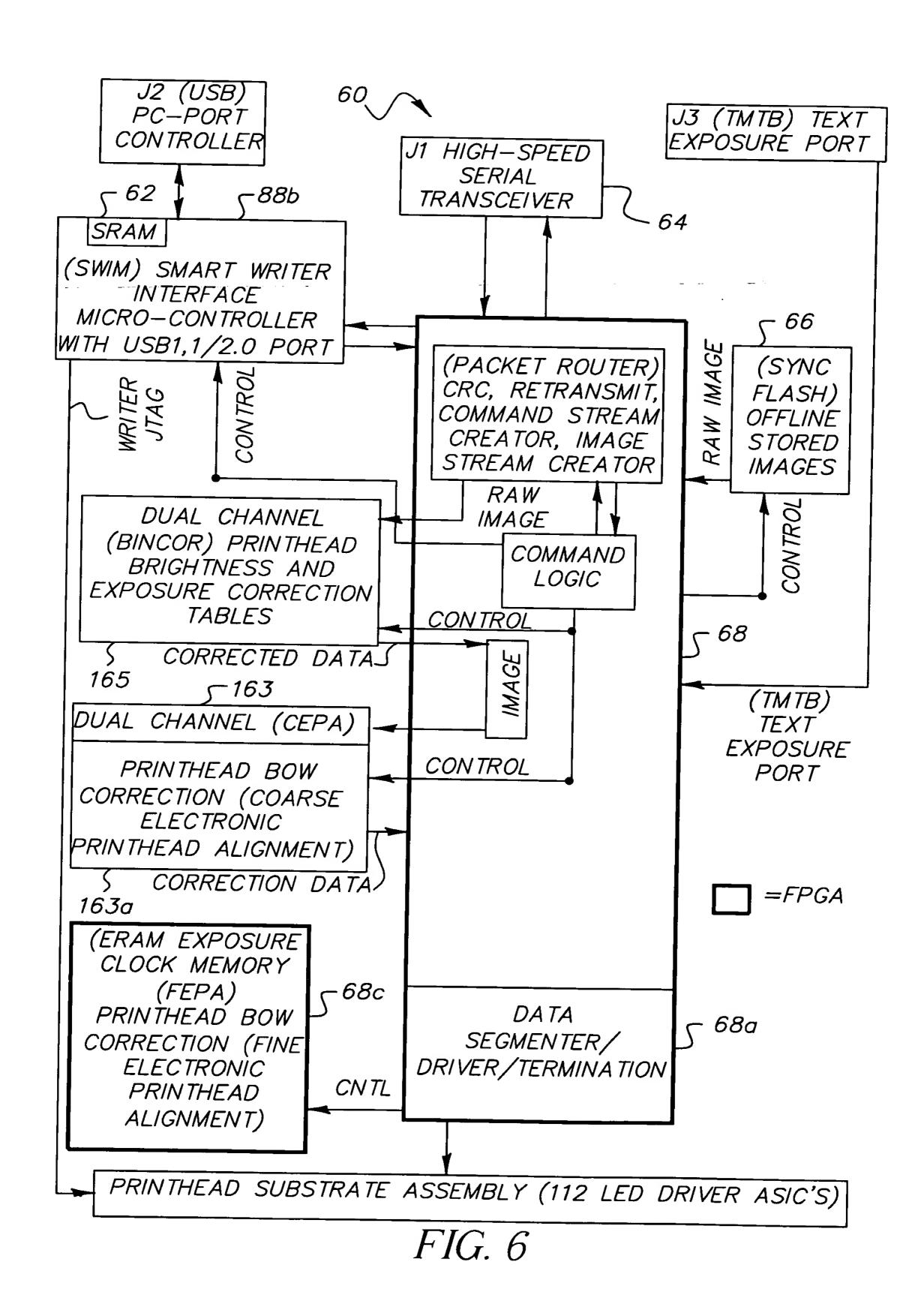


FIG. 5C





	. NA				T. W.X	V-T-			
	WW.	* YA	7 <i>1</i> DET		X	多			
	XXX	ZYA.	31 31	TWY.	W X	TWE			
	NAMA NAMA	YA	31 130	WW.	W <sub>2</sub>			<b>L</b>	F1
73	AMA.	YA.	1 <i>2</i> 1	WY STANK	NAME OF THE PERSON OF THE PERS	·			ム ひ
	*	RYA.	10 130			SAWA?	W.W.		
	W X X	N X X X	10 130			X	WW.	7	
	W X	X Y A	10 130		- FAME	X X X		727	
	W X	Z V A I	11 130	. , , ,	K X X	MARK			
	MAN O.0 SEG. FEPA ALIGNED  WAS O.0 SEG. FEPA ALIGNED  IT EXPOSURE  PLANE RESULT A	T=1D DCL1			┝╼╂╼┸┦		7		
SF	EG. FEI IT E. PLANE	$T=1DCLK\ DELAY$ $DCLK_T=(0.25)P_{IT\_LINE}$	TO 3T) 4 DELAY LEVELS	EG. WITH 2-BIT (OT	ACUR	PLA	E.O.		
SPACING	EG. FEPA ALIGNEI IT EXPOSURE PLANE RESULT A	25)P <sub>/T</sub>	NELS	317 (01	ACURACY: 4 1	PLACEMENT	EI EMENT		
, ,	CNED SE SE	LINE	<del></del>	7	<u> </u>	7.	Ť		

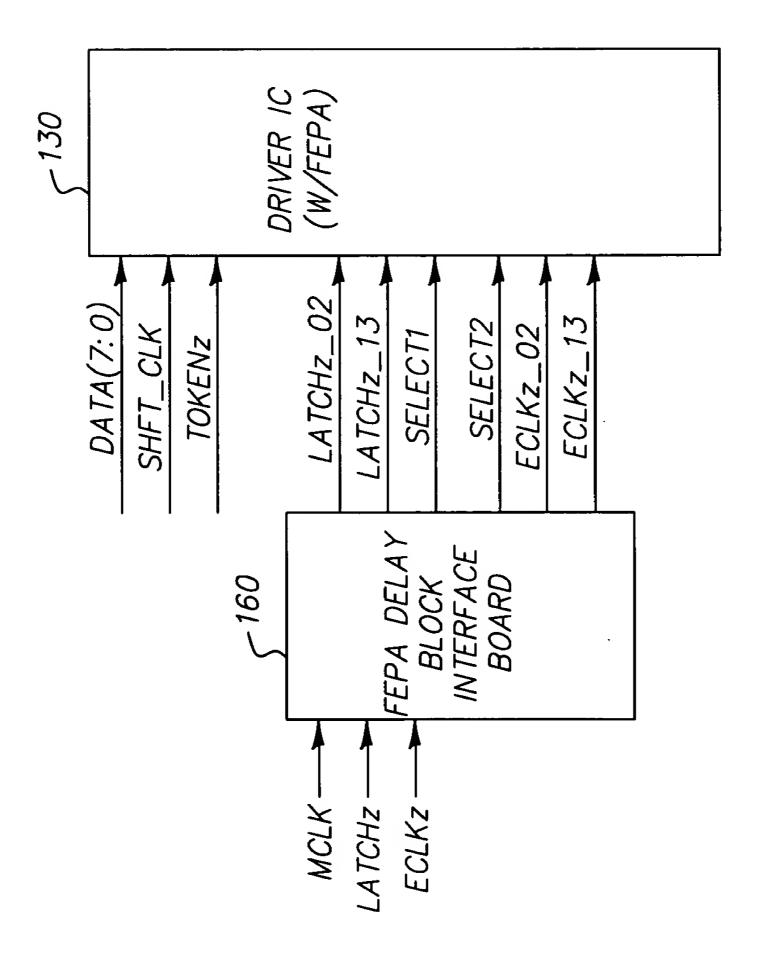
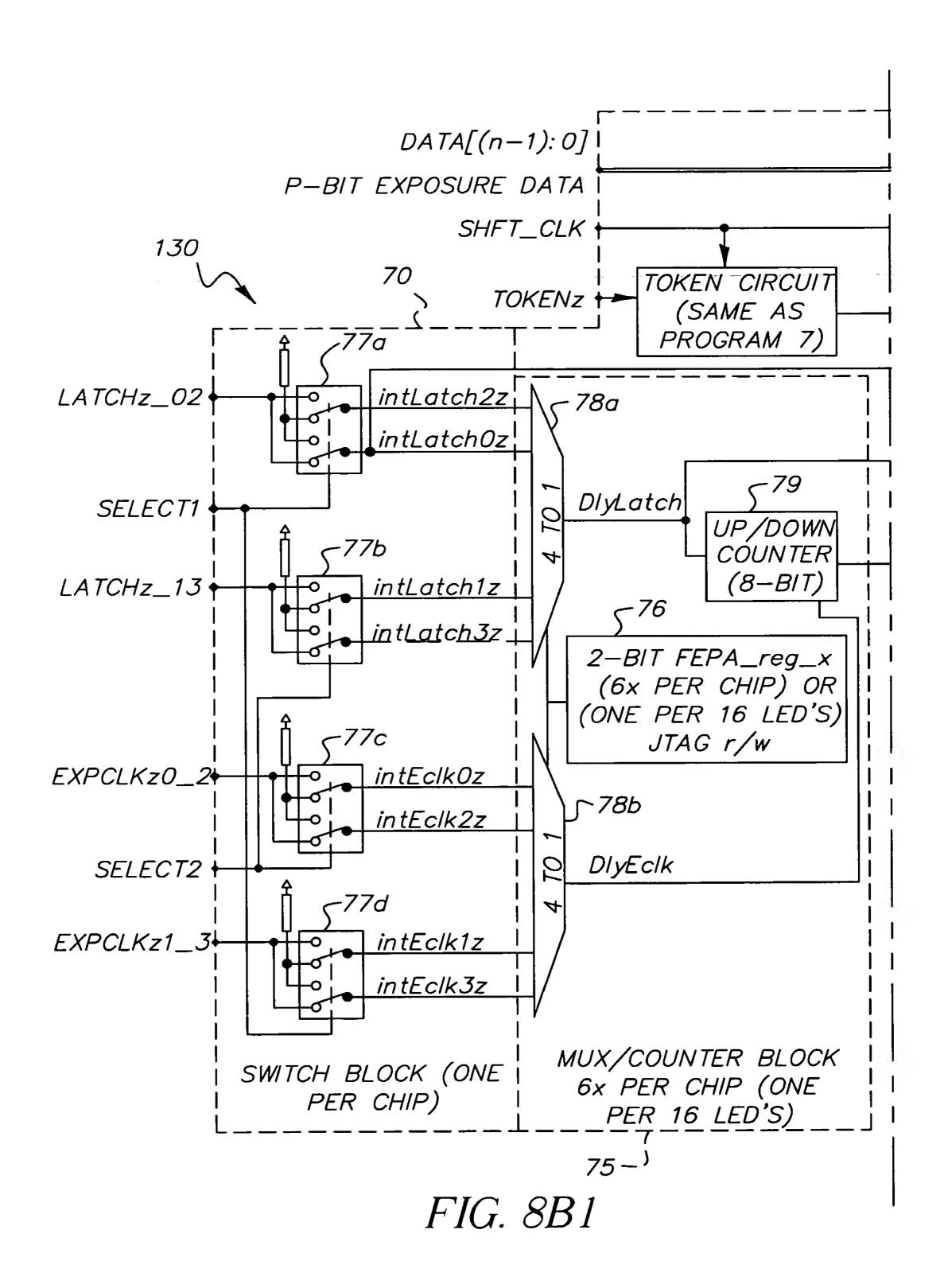


FIG. 8A

FIG. 8B1 FIG. 8B2

FIG. 8B



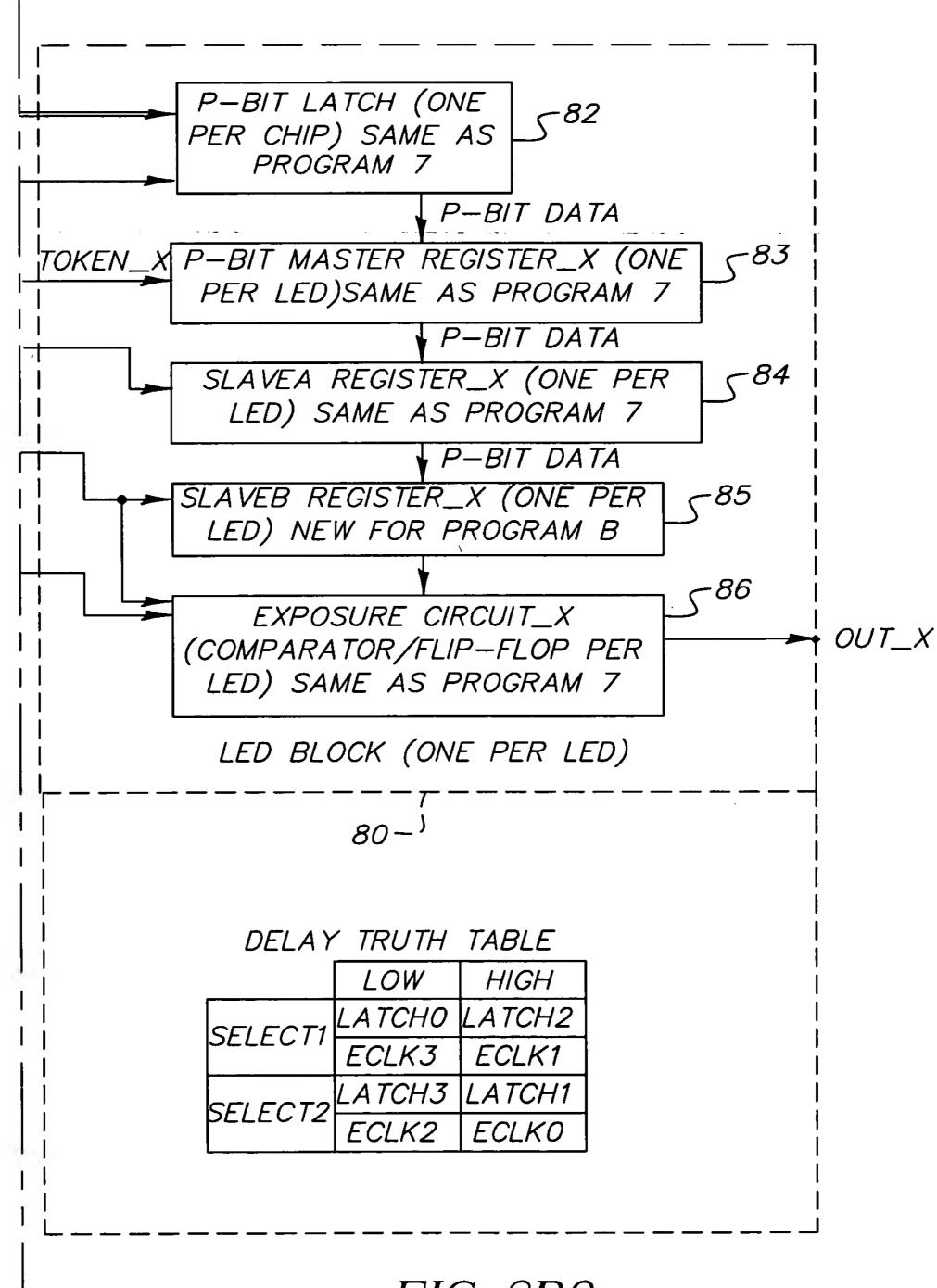


FIG. 8B2

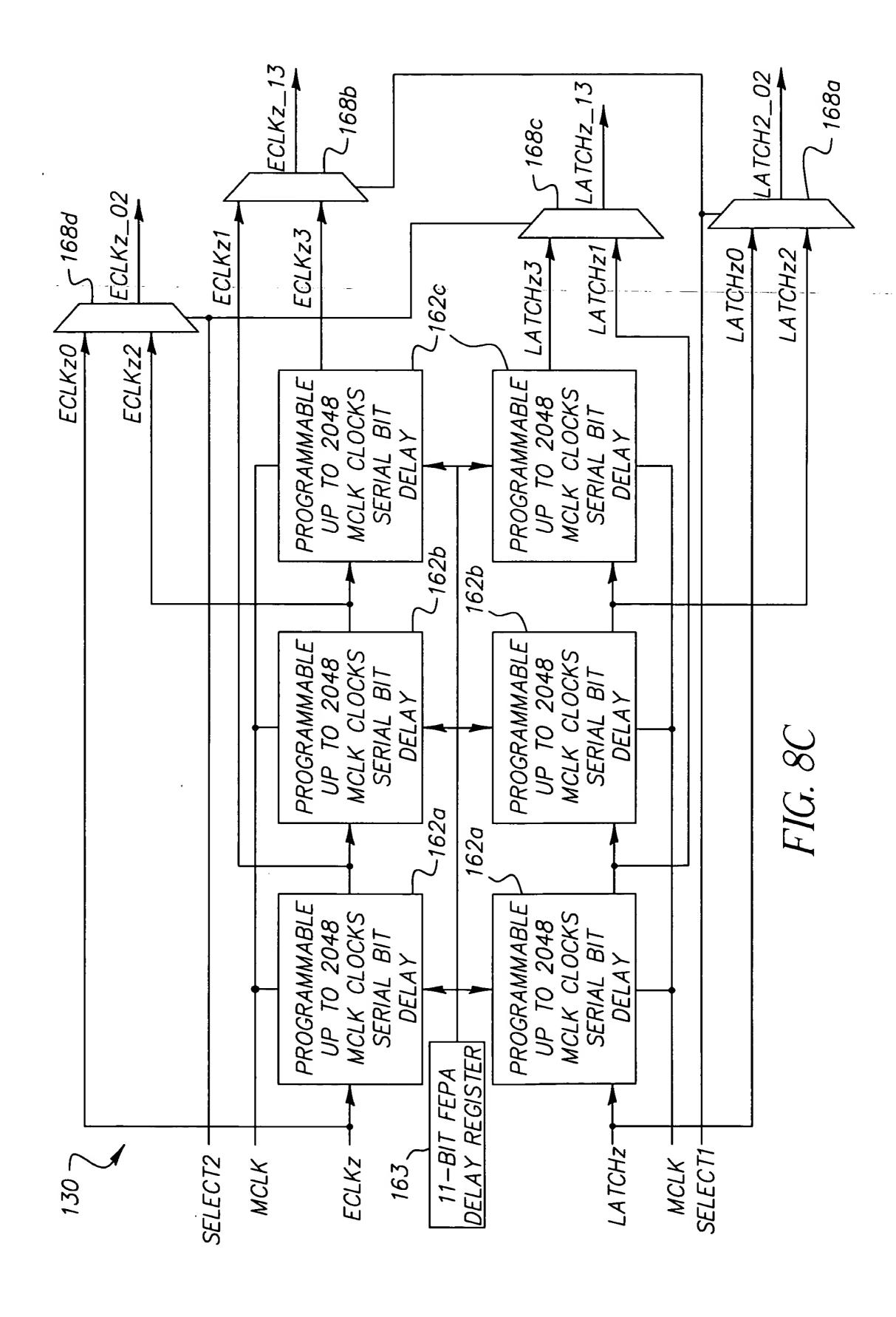
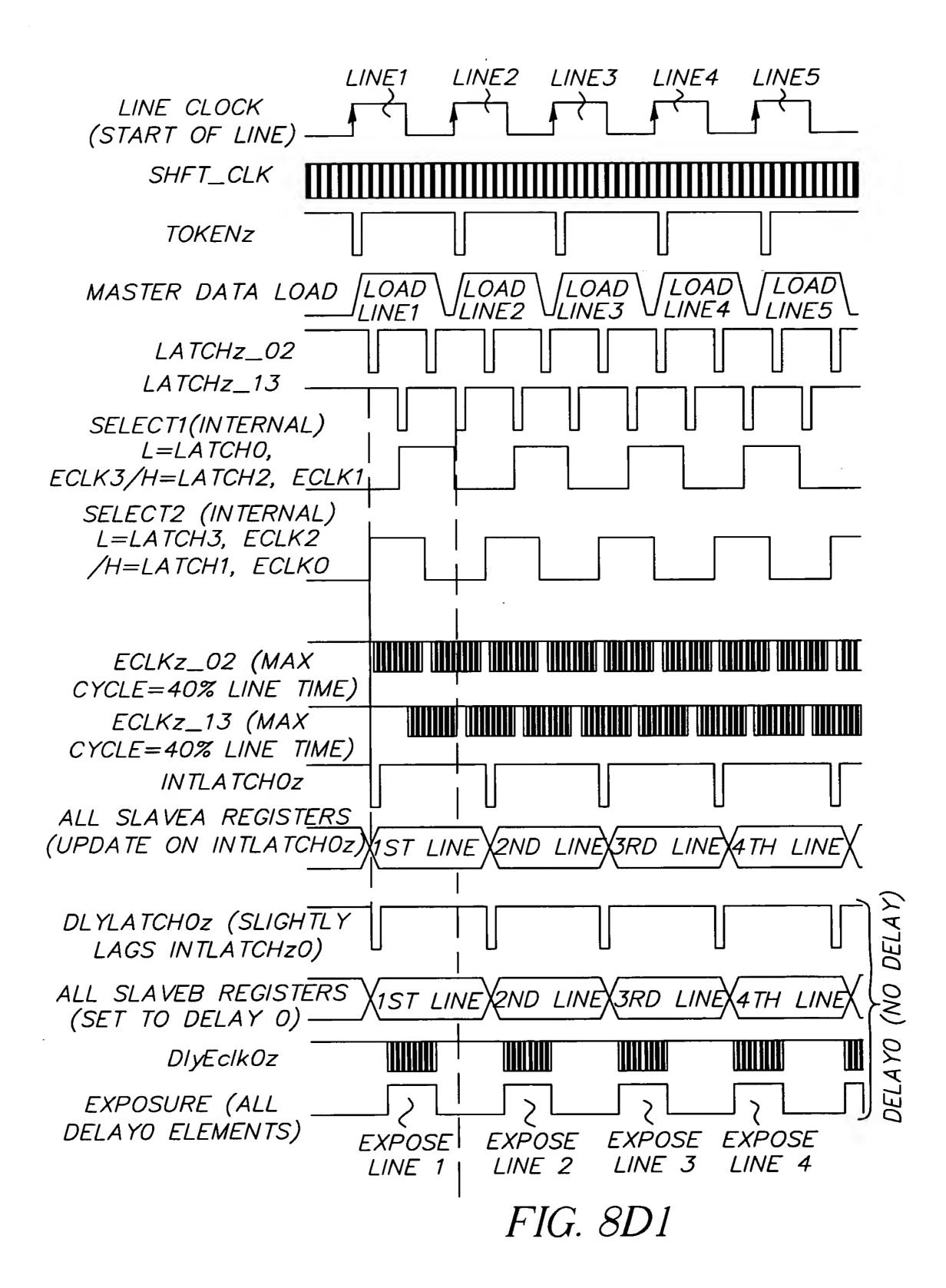


FIG. 8D1

FIG. 8D2

FIG. 8D



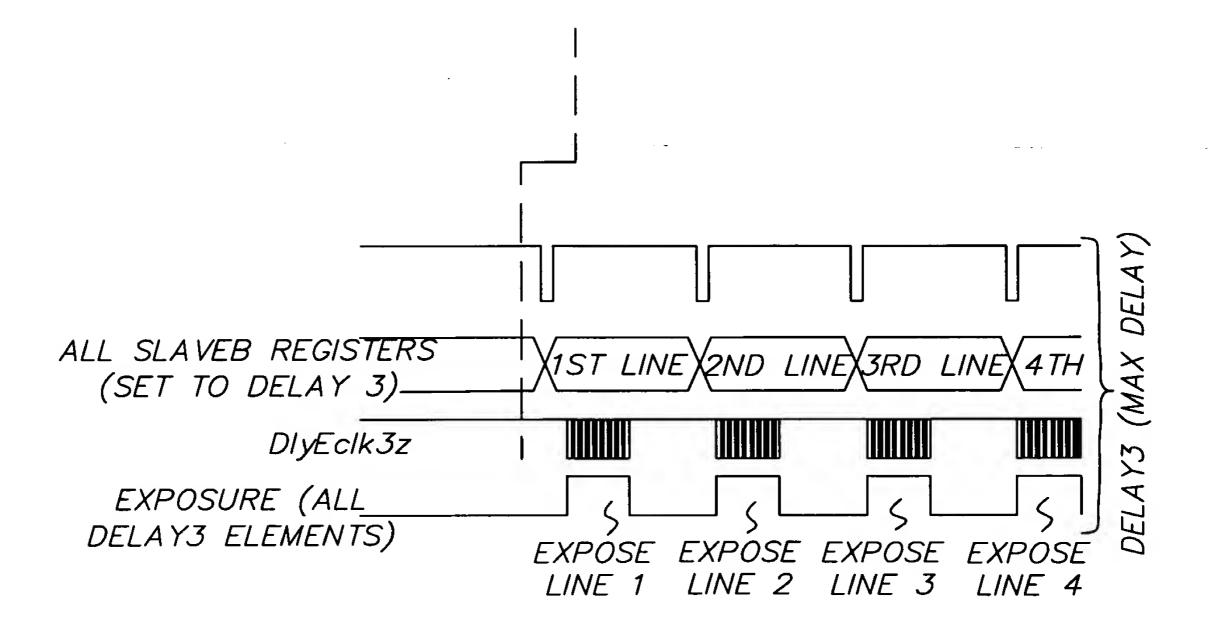


FIG. 8D2

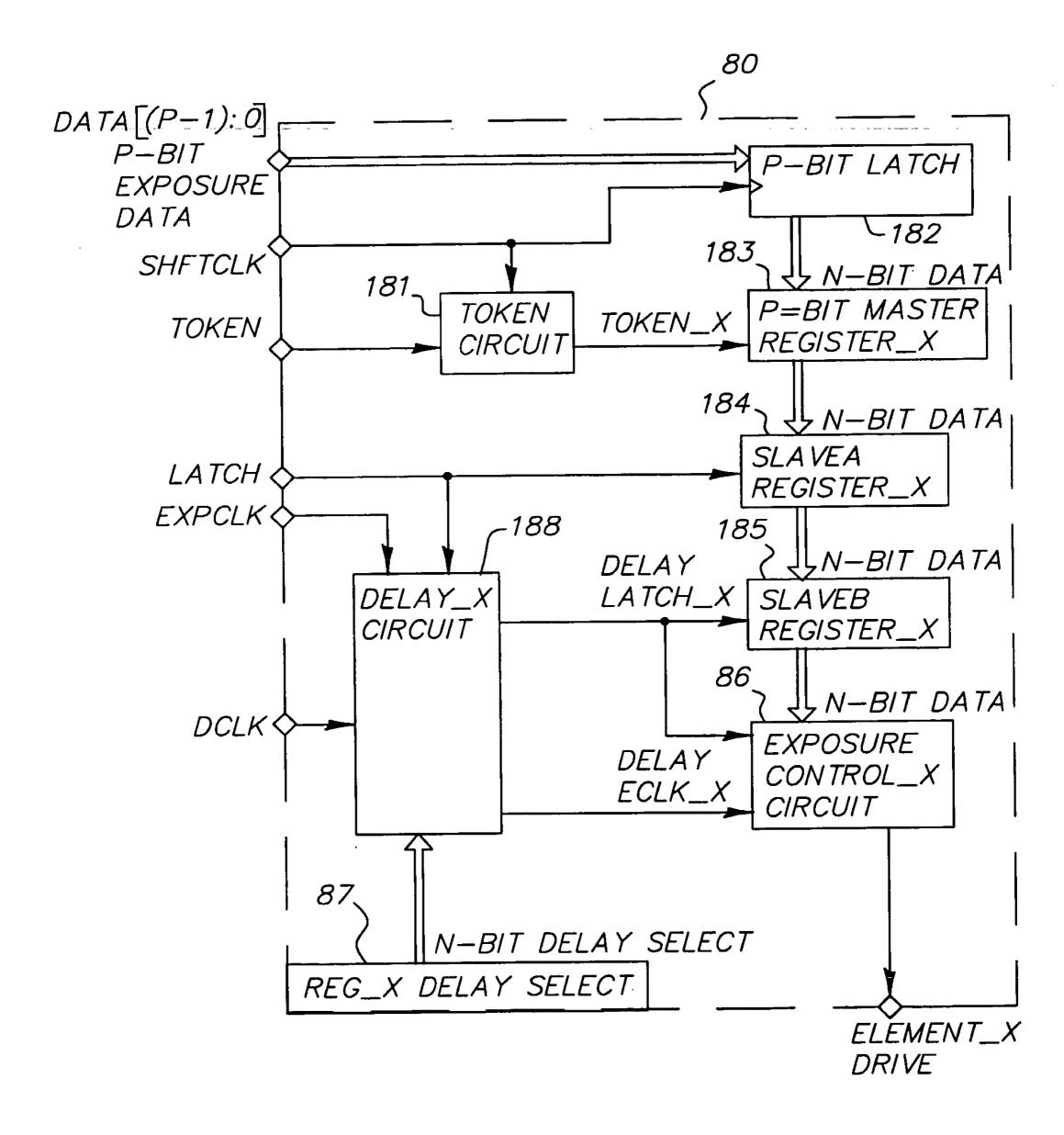


FIG. 9A

FIG. 9B1

FIG. 9B2

*FIG. 9B* 

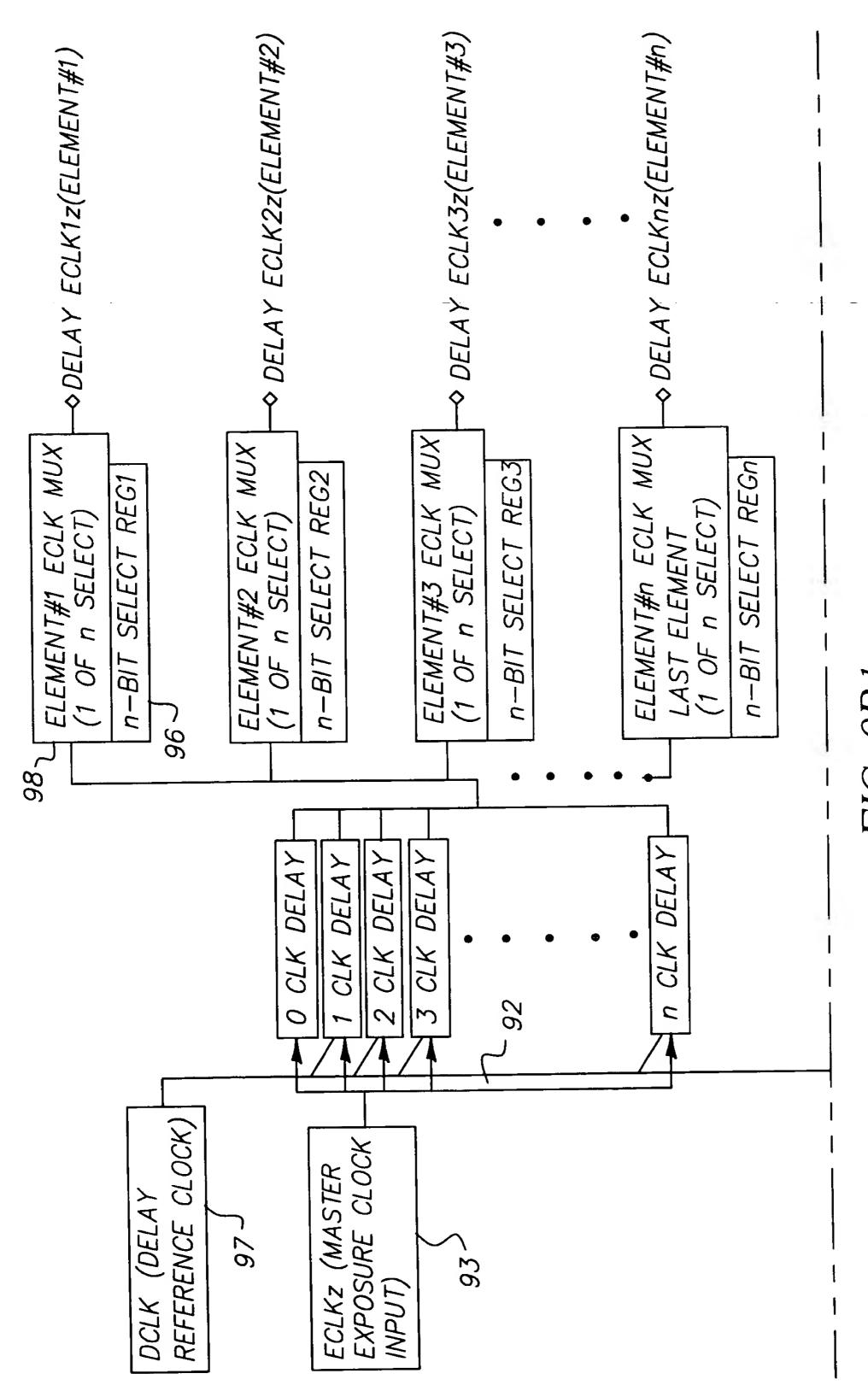


FIG. 9B1

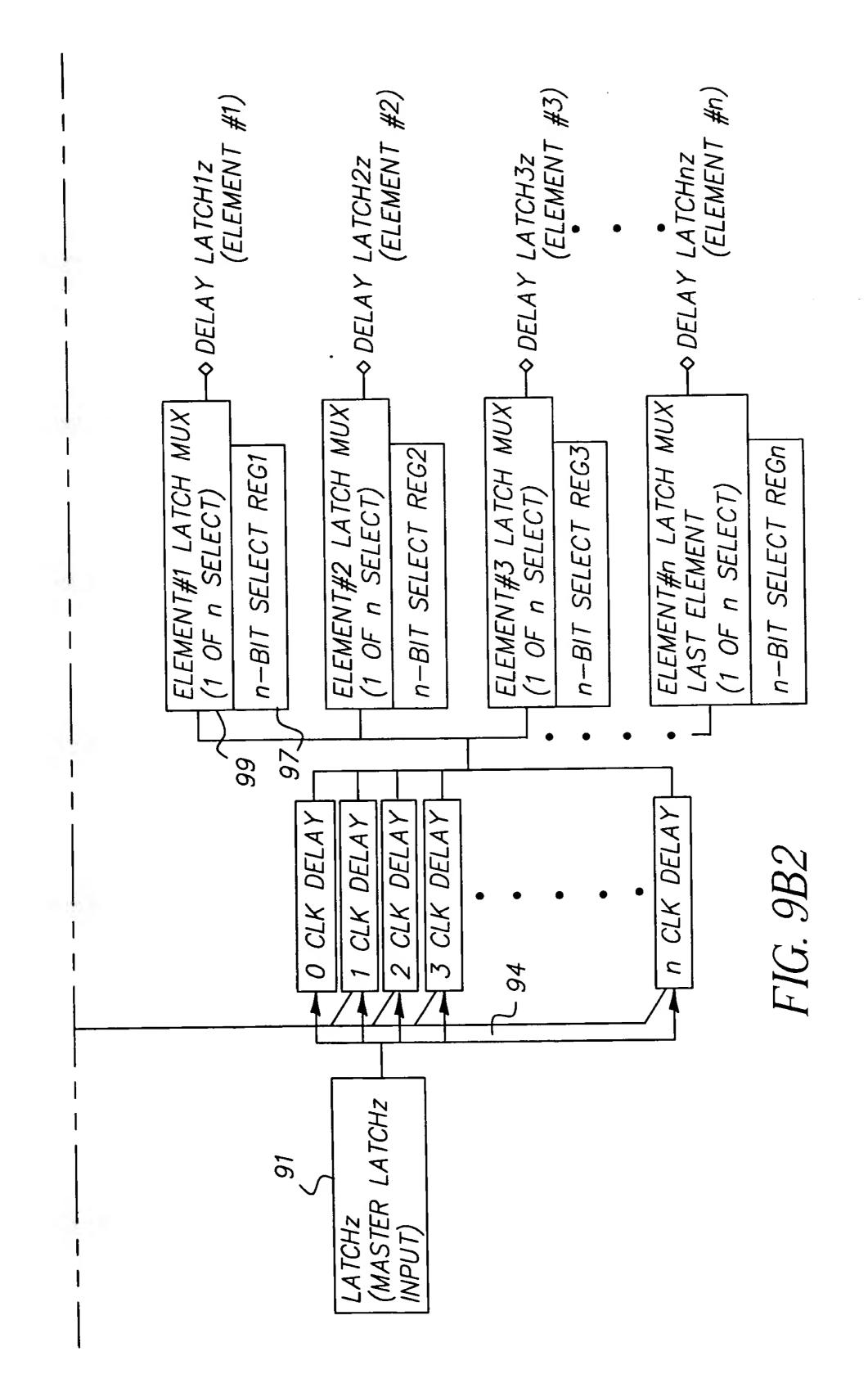


FIG. 10A

( i

FIG. 10B

FIG. 10

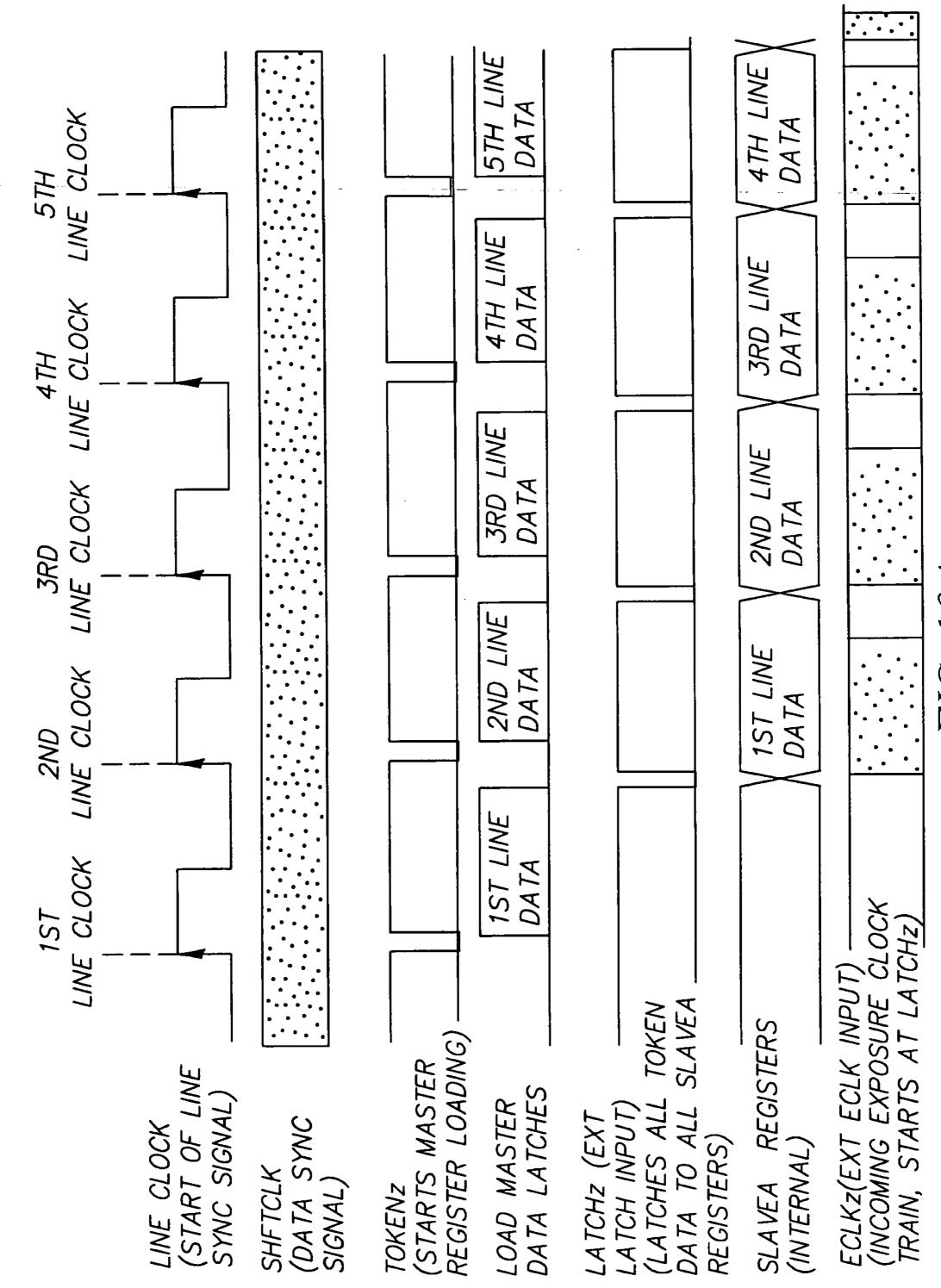


FIG. 10A

(INTERNAL) (ELEMENTS  W/ZERO DELAY)  DELAY ECLKZ (ZERO  DELAY) (INTERNAL DELAYED  EXPOSURE CLOCK)  ELEMENT EXPOSURE  (ELEMENTS WITH ZERO  DELAY)	EXPOSE LINE 1	A ZND LINE DATA ::::: EXPOSE LINE 2	3RD LINE DATA ::::: ::::: EXPOSE LINE 3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	DELAYED ELEMEN EXAMPLE OF ZER
DELAY LATCH_x (MAX DELAY)  (XFERS SLAVEA DATA TO SLAVEB REGISTER)  SLAVEB REGISTER_X (INTERNAL) (ELEMENTS W/ MAX DELAY)  DELAY ECLKZ_x (MAX DELAY)  DELAY (INTERNAL DELAYED EXERCISE (LOCK)		1ST LINE	2ND LINE	3RD LINE 4TH	DELAYED ELEMENT

FIG. 10B

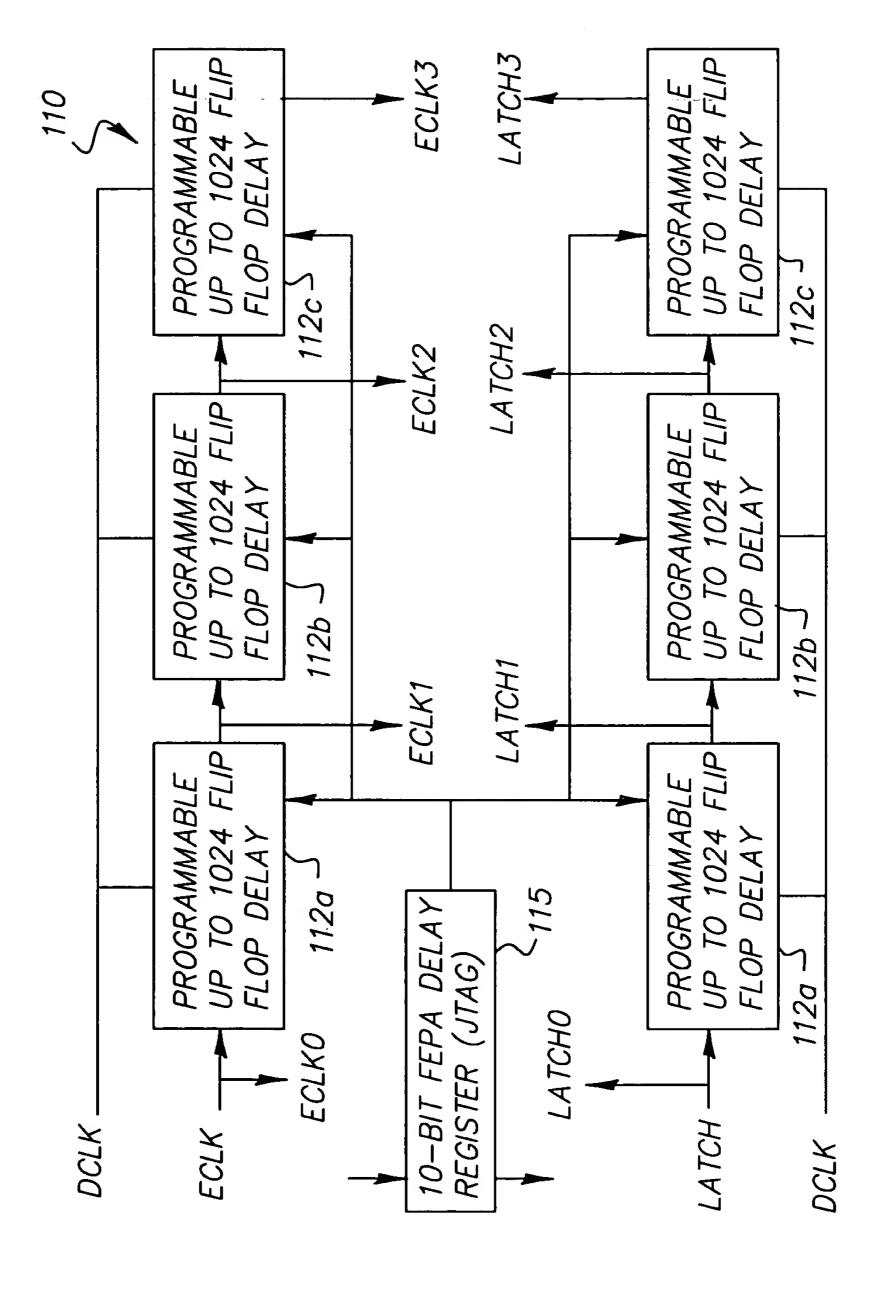


FIG. 11

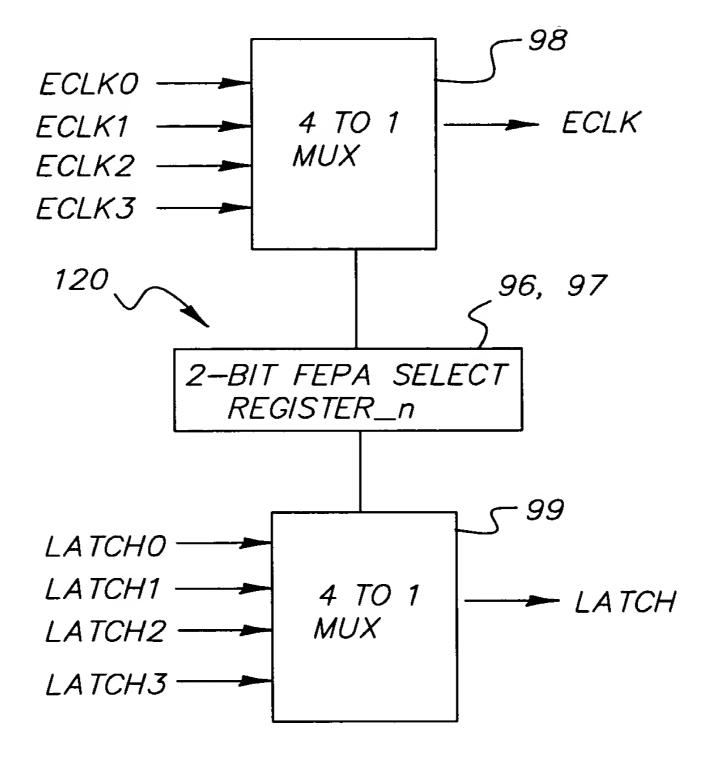


FIG. 12

ODD AND EVEN SHIFTED SAME WWW WWW

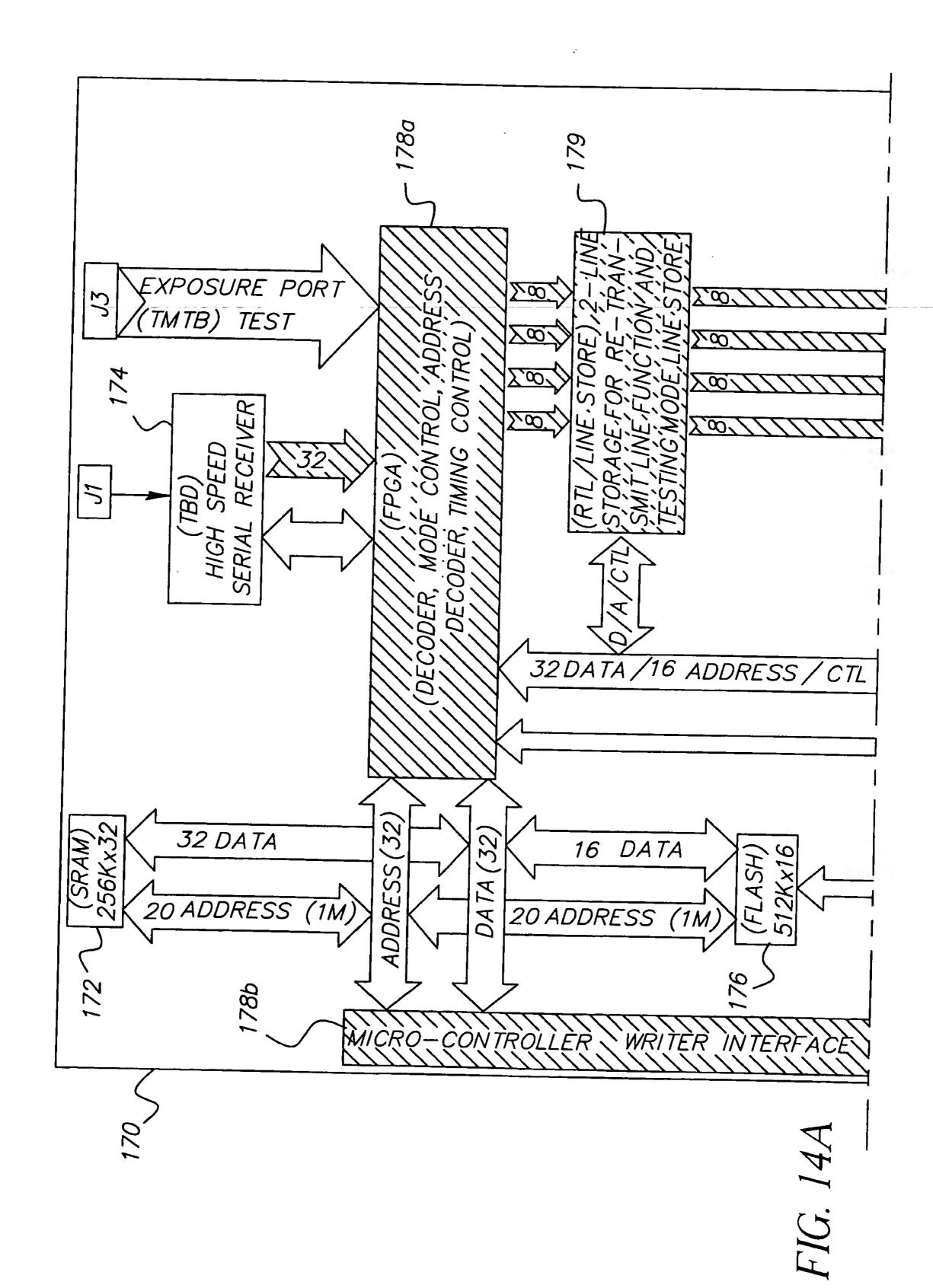
ODD'S ONLY SHIFTED + 1/4 DELTA PRODUCING +1/8 AVERAGE SHIFT APPEARANCE WANNER WA MA WW.XI.

EVENS ONLY SHIFTED + 1/4 PRODUCING +1/8 AVERAGE SHIFT APPEARANCE WANT WANT

FIG. 14A

FIG. 14B

FIG. 14



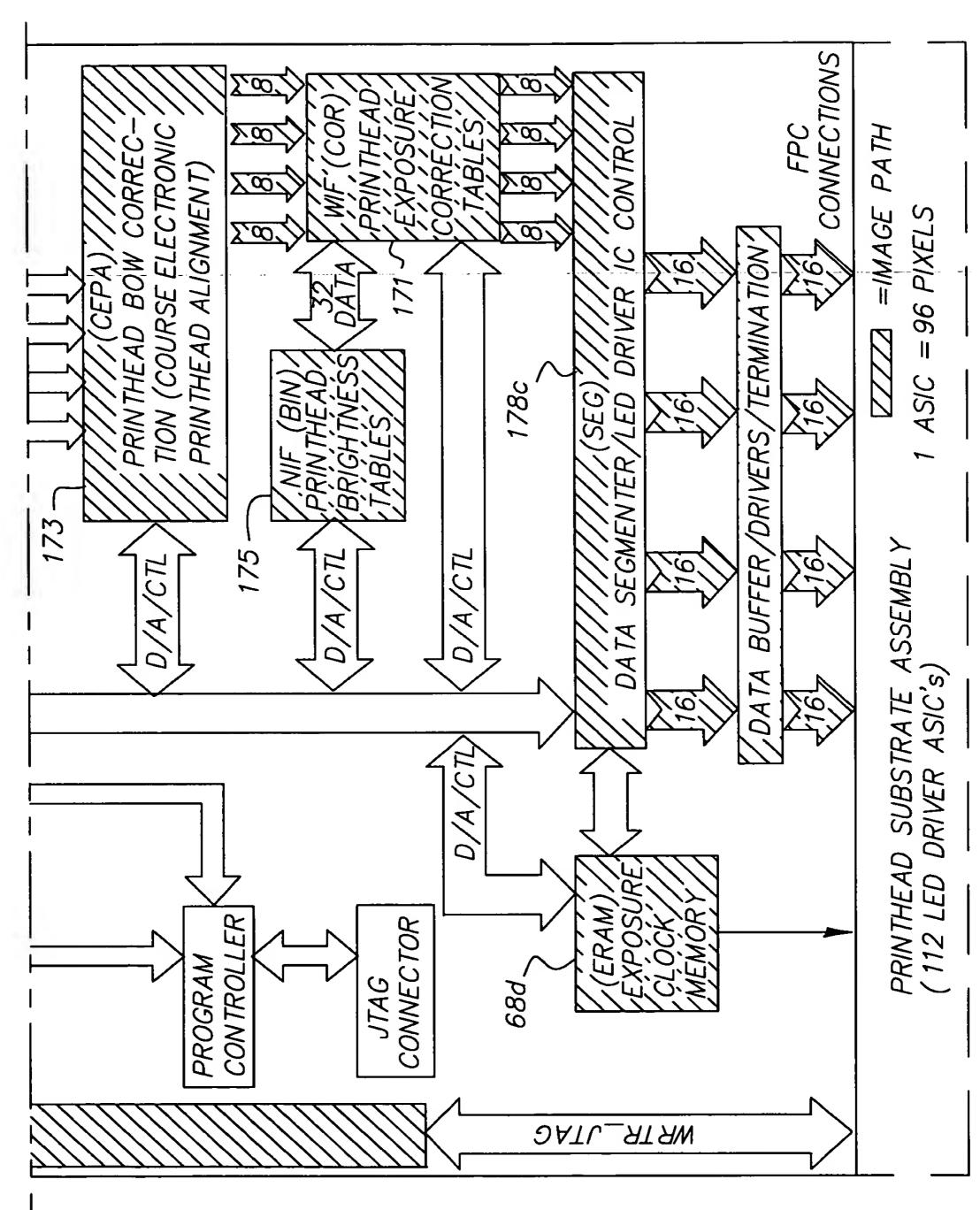


FIG. 14B